

ABSTRACT

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Title of diploma thesis: Secondary metabolites of plant cultures *in vitro* II

Diploma thesis is focused on callus and suspension plant cultures of *Juniperus virginiana* 'Glaucua' and their production of secondary metabolite. Produced content of podophyllotoxin was observed during 15 subcultivations for both types of cultures. The highest content of podophyllotoxin (0.060 %) was established in the 18th subcultivation of suspension culture derivated from the three-years-old callus culture and then subcultivated in the period of 21 days. The maximal content of podophyllotoxin produced by callus culture (0.0515 %) was found out in the 46th subcultivation. Simultaneously it represented the last observed subcultivation subcultivated in the period of 28 days. This research shows that nor the production of *Juniperus virginiana* callus culture neither the production of suspension culture is stopped by increased number of subcultivation.

Keywords: Suspension cultures, callus cultures, production of secondary metabolites, *Juniperus virginiana*, podophyllotoxin.